FIG. 1

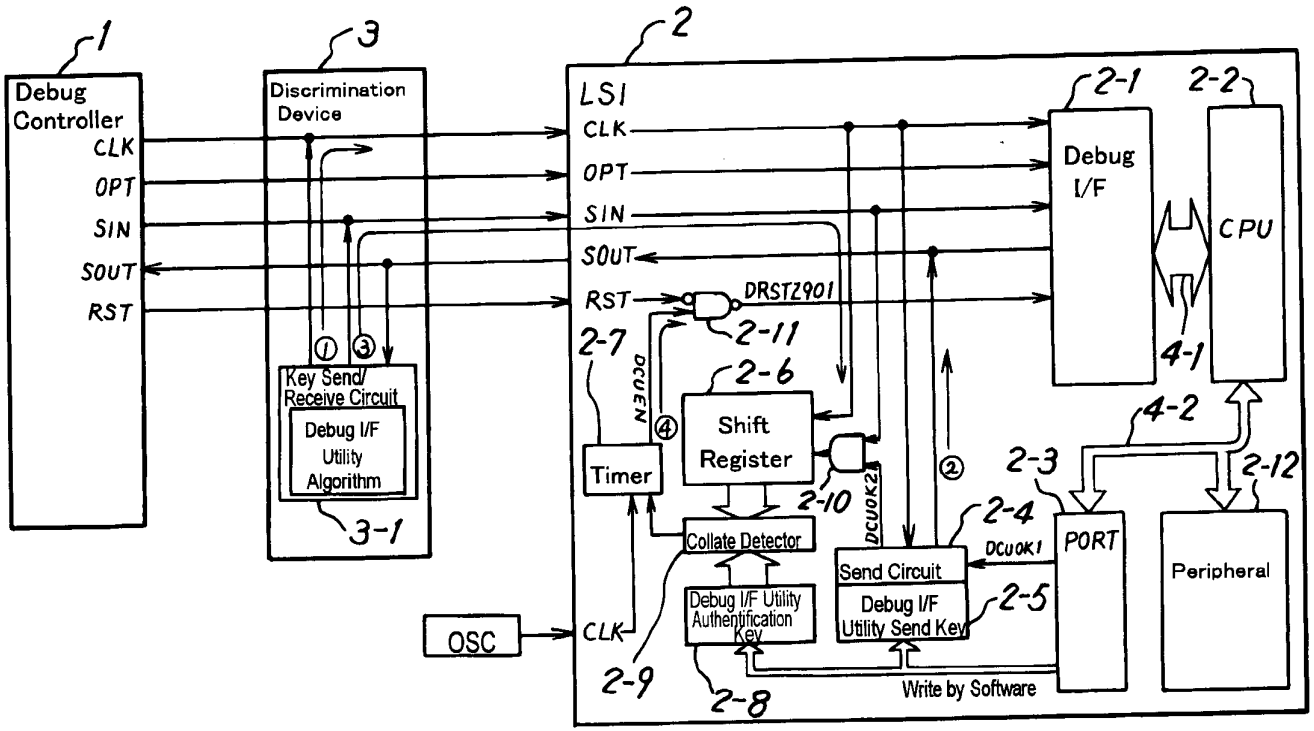
1
Debug Controller
CLK
OPT
SIN
SOUT
RST
3
Discrimination Device
Key Send/ Receive Circuit
Debug I/F Utility Algorithm
3-1
2
LSI
CLK
OPT
SIN
SOUT
RST
DRSTZ901
2-11
2-7
DCUEN
2-6
Shift Register
Timer
2-10
DCUOK2
Collate Detector
Debug I/F Utility Authentification Key
2-9
2-8
OSC
CLK
Send Circuit
Debug I/F Utility Send Key
2-5
2-4
DCUOK1
2-1
Debug I/F
2-2
CPU
4-1
4-2
2-3
2-12
PORT
Peripheral
Write by Software

FIG. 2

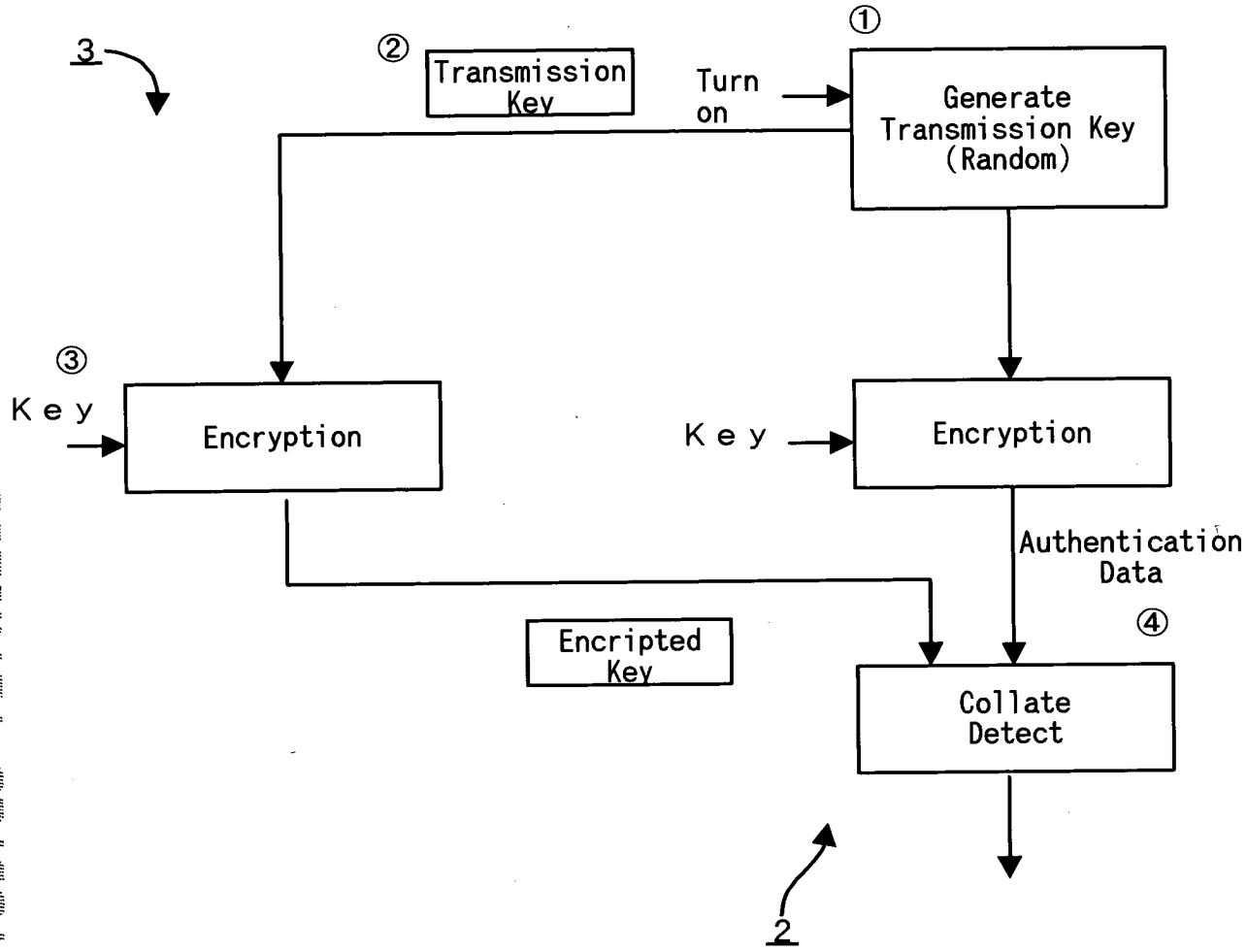
3
②
Transmission Key
Turn on
①
Generate Transmission Key (Random)
③
Key
Encryption
Key
Encryption
Authentication Data
④
Encripted Key
Collate Detect
2

FIG. 3

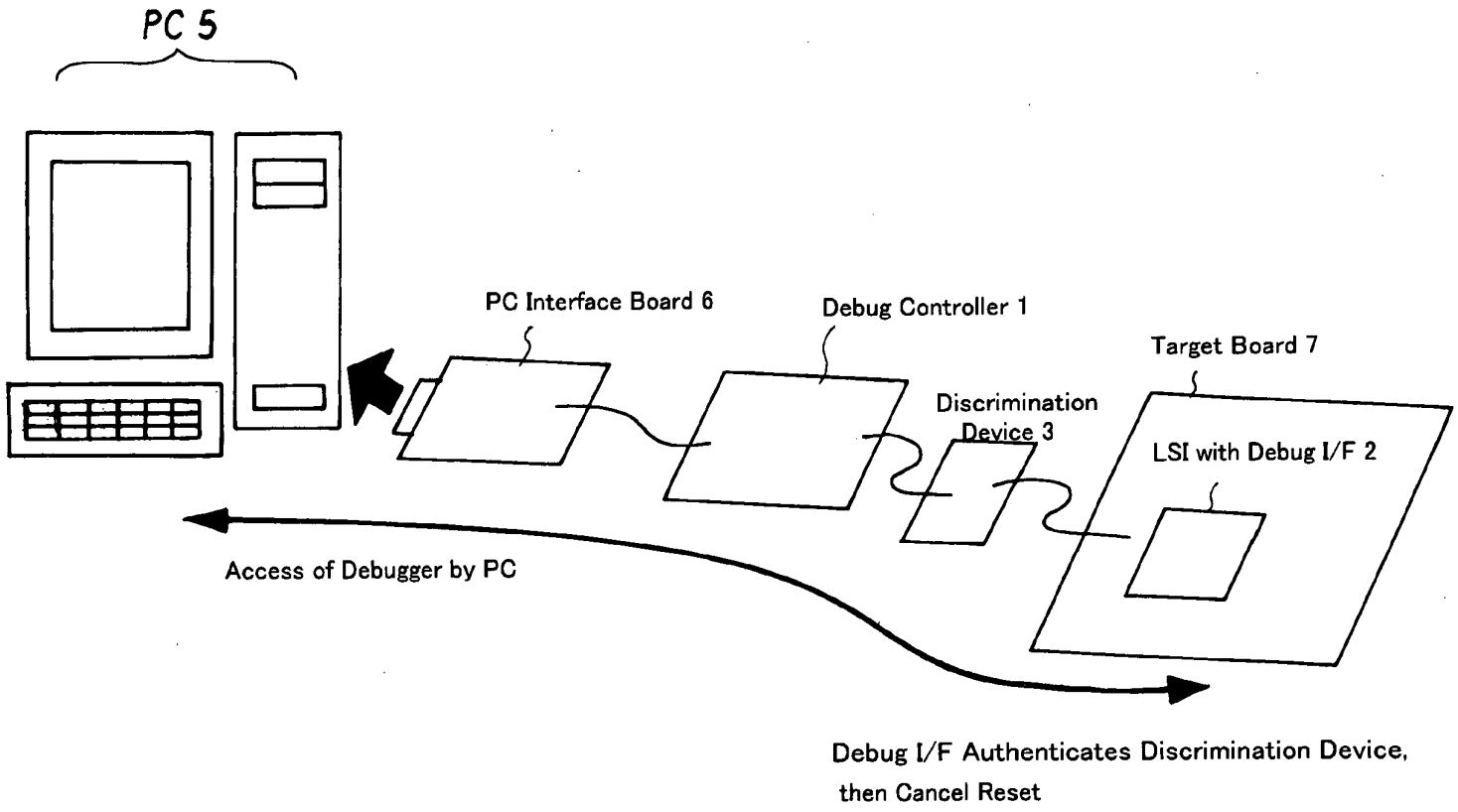
PC 5
PC Interface Board 6
Debug Controller 1
Target Board 7
Discrimination Device 3
LSI with Debug I/F 2
Access of Debugger by PC
Debug I/F Authenticates Discrimination Device, then Cancel Reset

FIG. 4

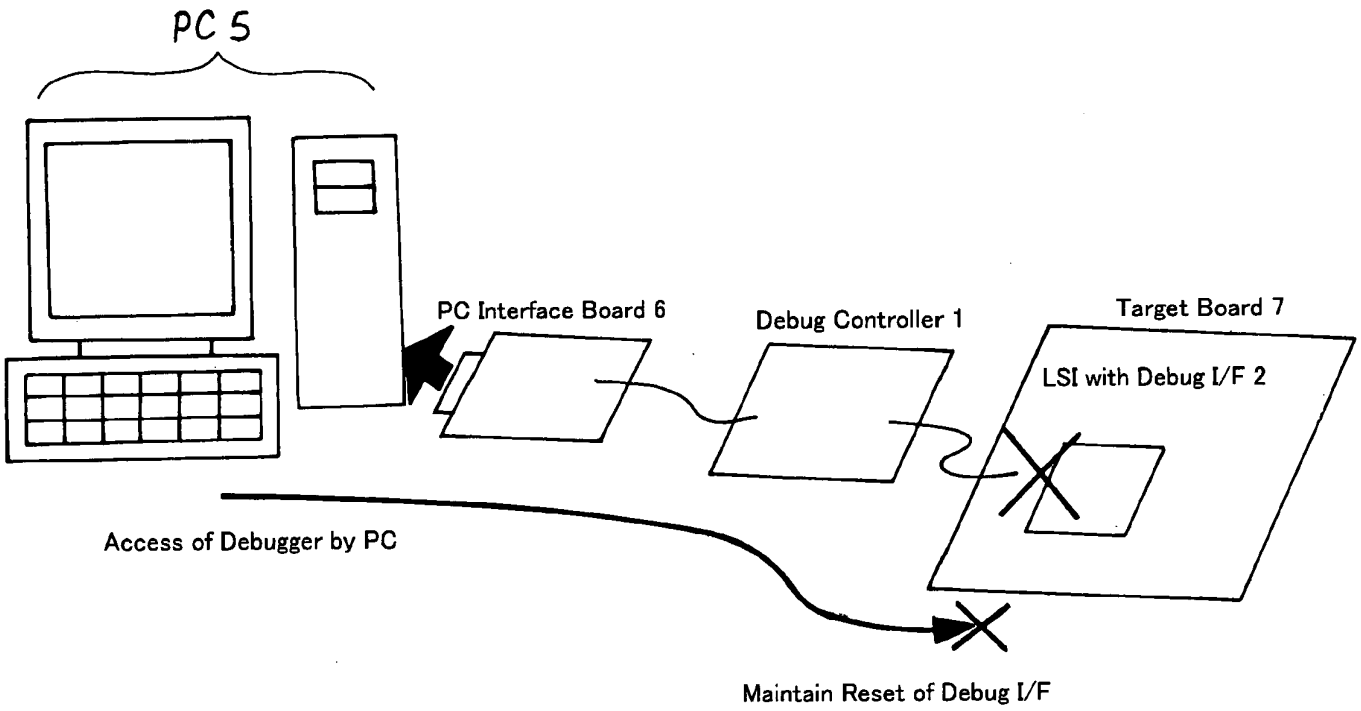
PC 5
PC Interface Board 6
Debug Controller 1
Target Board 7
LSI with Debug I/F 2
Access of Debugger by PC
Maintain Reset of Debug I/F

FIG. 5

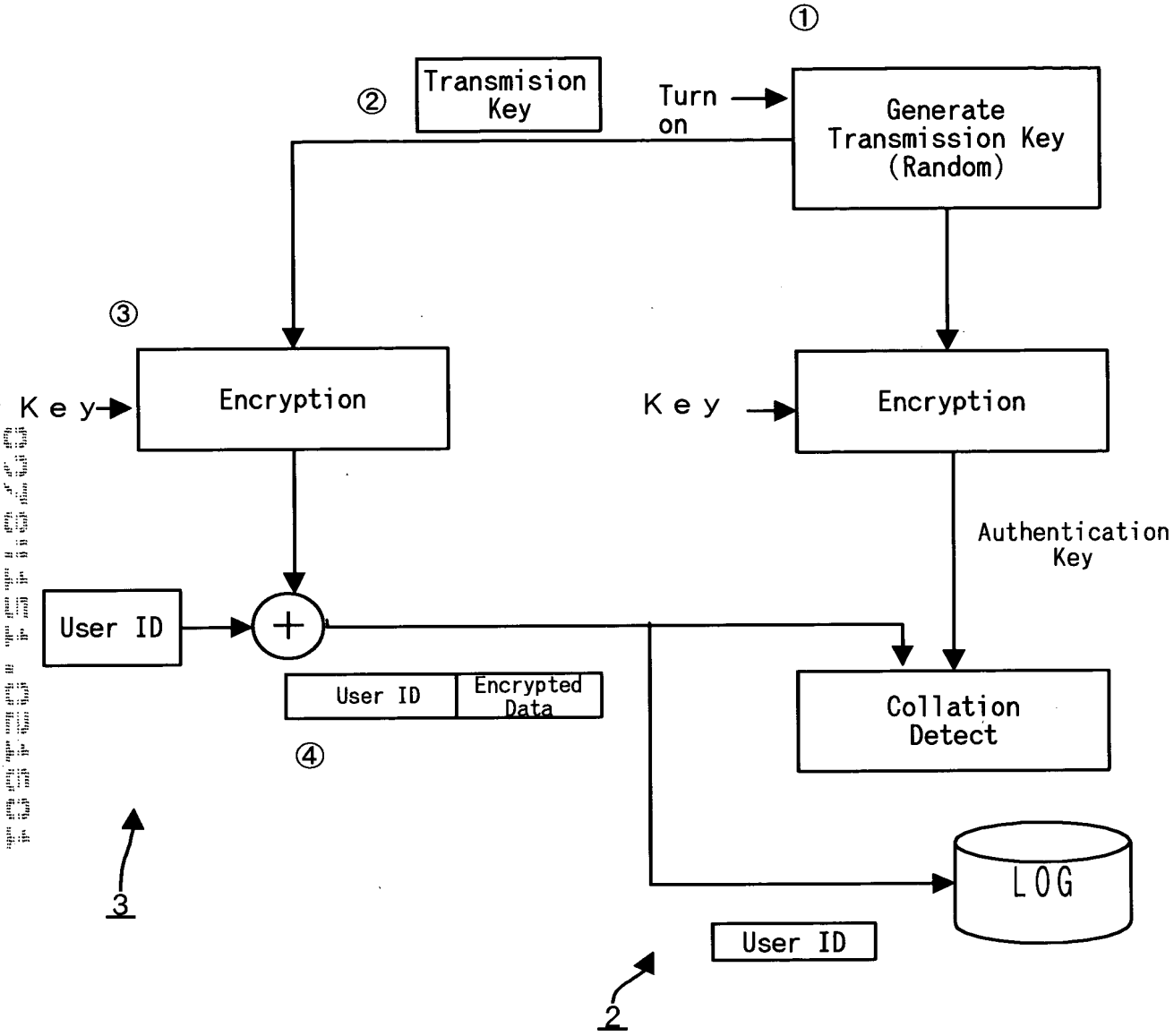
①
②
Transmision Key
Turn on
Generate Transmission Key (Random)
③
Key
Encryption
Key
Encryption
Authentication Key
User ID
User ID
Encrypted Data
④
Collation Detect
LOG
User ID
3
2

FIG. 6

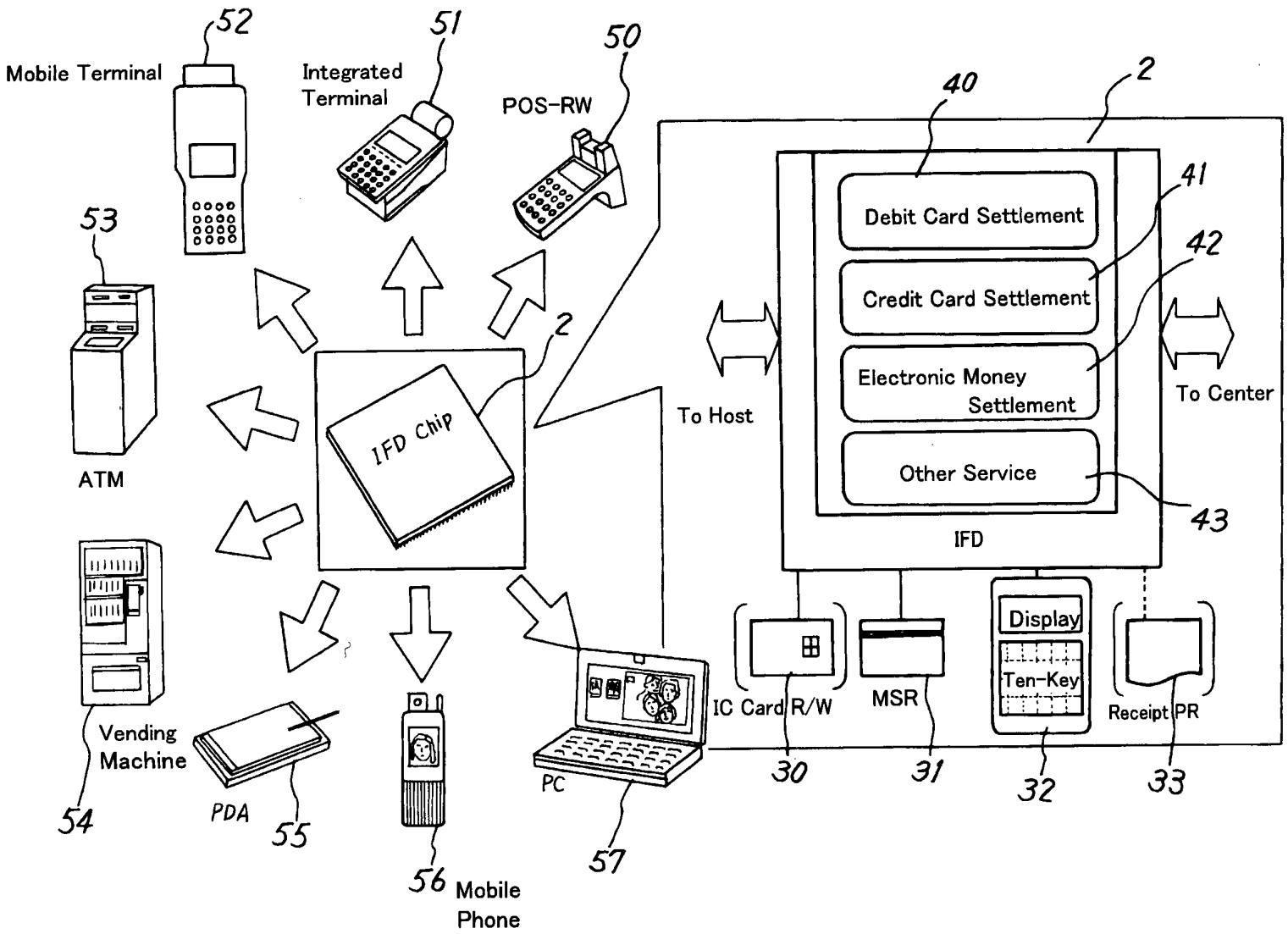
Mobile Terminal
52
Integrated Terminal
51
POS-RW
50
40
2
41
Debit Card Settlement
42
Credit Card Settlement
Electronic Money Settlement
To Center
To Host
53
ATM
2
IFD Chip
Other Service
43
IFD
Display
Ten-Key
IC Card R/W
MSR
Receipt PR
30
31
32
33
Vending Machine
54
PDA
55
56
Mobile Phone
PC
57

FIG. 7

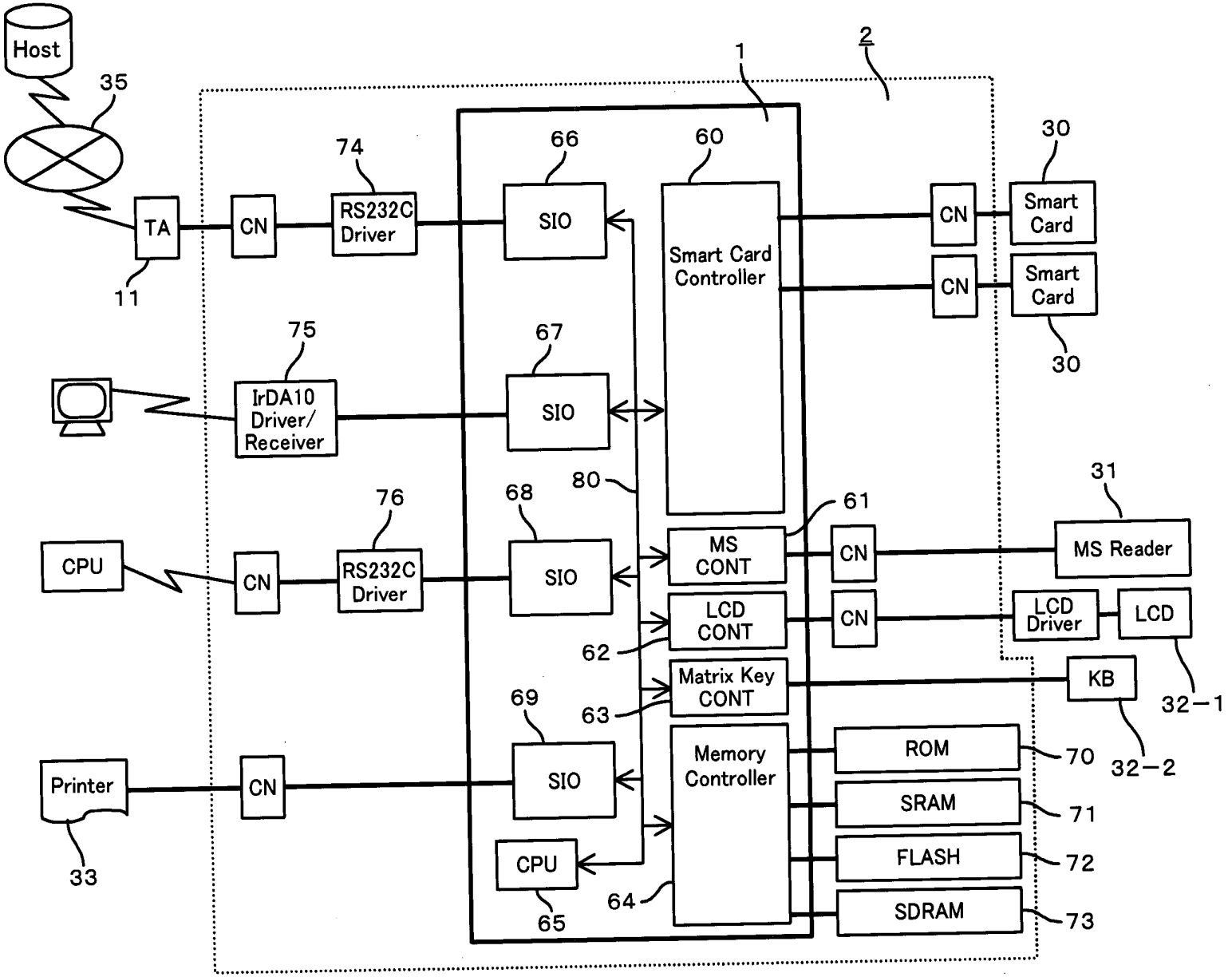
Host
35
TA
11
CN
74
RS232C Driver
66
SIO
60
Smart Card Controller
1
2
30
CN
Smart Card
CN
Smart Card
30
75
IrDA10 Driver/ Receiver
67
SIO
80
68
SIO
76
CPU
CN
RS232C Driver
MS CONT
61
CN
31
MS Reader
LCD CONT
CN
LCD Driver
LCD
62
Matrix Key CONT
KB
32-1
32-2
69
63
SIO
Memory Controller
ROM
70
SRAM
71
FLASH
72
SDRAM
73
Printer
CN
33
CPU
65
64

FIG. 8

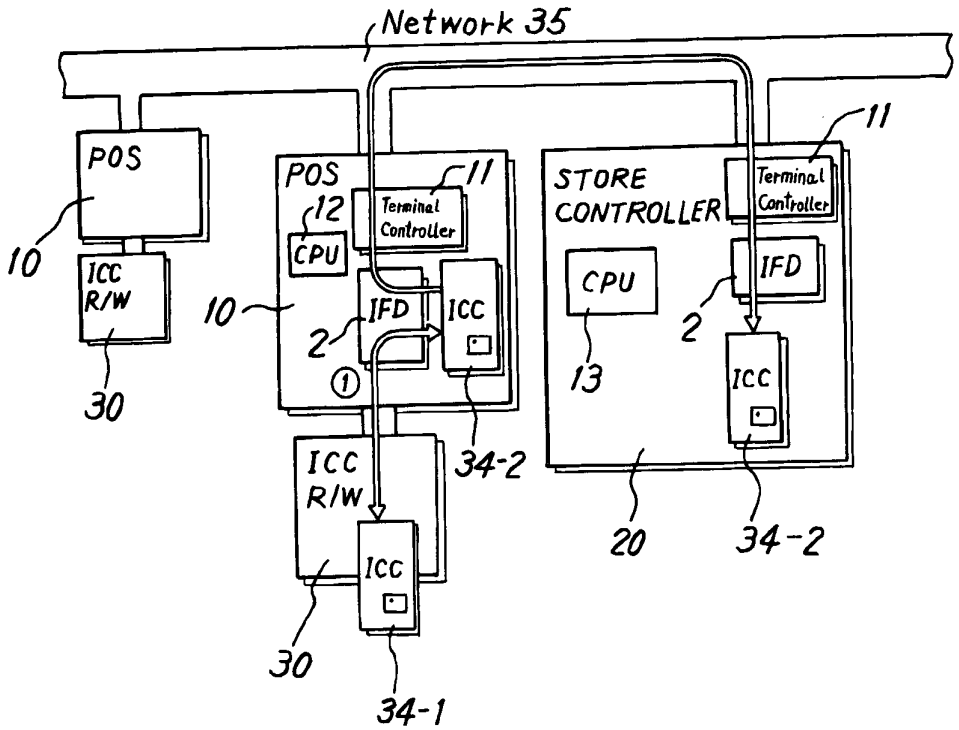
Network 35
POS
10
ICC R/W
30
POS
12
CPU
Terminal Controller
11
10
IFD
ICC
2
1
ICC R/W
ICC
30
34-1
34-2
STORE CONTROLLER
Terminal Controller
11
CPU
13
IFD
2
ICC
20
34-2

FIG. 9

Prior Art